such a nature, and so well illustrated, that they will interest not only those working in the particular field of which the article treats, but all who desire to keep informed in an authoritative way of progress made in plant and animal breeding and eugenics."

The magazine will be issued monthly instead of quarterly as hitherto.

This enlargement and improvement of The American Breeders' Magazine is made possible only by a guarantee fund of $3,000 annually for three years pledged by members and friends of the Association to cover possible deficits.

It is to be hoped that the increase in membership which the work and the publications of the association warrant will make the use of the guarantee fund unnecessary.

The number issued for October contains the following articles illustrated by eleven full-page plates and one half-page plate:

Announcement of Reorganization of the Association.

New Citrous Fruits, by *Walter T. Swingle.*

Eugenic Immigration, by *Robert DeC. Ward.*

New Plants for Breeders, by *David Fairchild.*

Color Inheritance in Swine, by *W. W. Smith.*

Publications Received.

Report of Fourth International Conference on Genetics.

Association Matters.

Since the above was written, three further numbers of the publication have appeared of which the first two complete volume IV. The issue for January, 1914, bears the new title "*The Journal of Heredity,*" and announces that the *American Breeders' Association* is henceforth to be called the *American Genetic Association.* These three issues under the new management show marked enlargement and improvement, fully meeting the plans announced in the preceding number.

A. B. Stout

PROCEEDINGS OF THE CLUB

October 29, 1913

The meeting of October 29, 1913, was held in the laboratory of the New York Botanical Garden at 3:30 P.M., Dr. Marshall A. Howe acting as chairman. Fifteen persons were present.

The minutes of the meeting of October 14 were read and approved.

Dr. E. G. Arzberger, Bureau of Plant Industry, Washington, D. C., was nominated for membership.

Dr. H. H. Rusby on behalf of the committee to prepare a suitable memorial of Judge Addison Brown submitted a biographical sketch which was, on the motion of Professor R. A. Harper, referred to the board of editors for publication.

The *resolutions* relating to the death of Judge Brown and E. L. Morris were ordered engrossed and sent to the families of the deceased.

The first number of the scientific program was a paper on the Ambrosiaceae.

Dr. Rydberg presented some preliminary remarks on the results of his investigations of the family Ambrosiaceae of which he is preparing a monograph for the North American Flora. His work has been confined to the Ambrosiaceae proper. This group is represented in the eastern United States by the genera *Ambrosia* and *Xanthium*. These two genera were the only ones known to Linné when he wrote his Species Plantarum. The characters distinguishing the two are the following:

In *Ambrosia* the bracts of the staminate heads are united. The pistillate head contains usually only one flower and forms a bur with a single beak which is 3- or 4-toothed at the apex and very little oblique. The bur is armed with a single circle of small straight spines. In *Xanthium* the bracts of the staminate heads are distinct. The pistillate head develops into a bur with numerous hooked spines and two beaks which are very oblique at the mouth and have only 2 lobes, of which the outer one is much longer and usually hooked. The younger Linnaeus described in the Supplementum *Xanthium fruticosum*, which disagrees with the whole genus in having the bracts of the staminate heads united as in *Ambrosia*.

Medicus claimed that the older Linnaeus had included this species in *Ambrosia*, which statement has been impossible to verify. Medicus in Act. Acad. Theod. Palat. 3: 247. 1775 discusses this species, still including it in *Ambrosia*, but suggests

that it may constitute a distinct genus. In 1889, in Philosophia Botanica he actually proposed it as a genus, *Gaertneria*. Unfortunately there is a *Gaertnera* of Schreber of the same year. In 1793, Cavanilles described the new genus *Franseria*. Most authors have regarded *Gaertneria* of Medicus and *Franseria* of Cavanilles the same. The genus has been known mostly under the latter name. O. Kuntze was the first one in later years who took up the older name *Gaertneria*, but he dates it from 1775 the year when Medicus first discussed the species, but as he did not propose a new name for it, but still retained the species in *Ambrosia*, this cannot be regarded as publication; and *Gaertneria* might be antedated by *Gaertnera* Schreber. However, a new question arises.

The only character separating *Xanthium* and *Franseria* is the distinct bracts of the staminate heads in the former and the united ones in the latter. In one species of *Franseria* the bracts are only united at the base and this character might not be generic. In other respects the original *Franseria* is very closely related to *Xanthium*, having many numerous and hooked prickles and 2–4 beaks on the fruit, of the character of those in *Xanthium*, while the most species that have been included in *Franseria* are closely related to *Ambrosia*. As stated before, *Ambrosia* has only one beak that is scarcely oblique at the apex and usually 3–4-toothed. This character is also found in two North American species of *Franseria*, but all the other species have 2-toothed, very oblique beaks as in *Xanthium*. Some have one beak, some two or even as many as six or seven. The question is whether the number of beaks, the number and structure of the spines are not just as good generic characters as the number of series of spines and the union or non-union of the bracts of the staminate heads. If such combinations are made the genus *Franseria* should be divided into several genera. Such species as *Franseria acanthicarpa*, *tenuifolia* and *bipinnatifida* differ very little from *Ambrosia*, the distinction being in consisting only of 2–4 series of spines instead of single ones and an oblique 2-toothed beak. The general habit is that of *Ambrosia* and the staminate heads essentially identical. Such species as *Franseria discolor* and *tomentosa* are

also very close to *Ambrosia*, but the beaks are 2 or more. The number of beaks corresponds also to the number of cavities in the bur. Each cavity and beak contains usually only one pistil but sometimes two. These species are closely related to the original *Gaertneria*. In all these species the spines are rather few, seldom 30, and either short and without any hooks at the end, or else more or less flattened or channeled on the upper side. The original species of *Franseria* on the contrary has numerous spines and numerous series, the number of spines being over 100. They are long and slender and hooked at the end, and the whole fruit in structure agreeing with *Xanthium*.

The only one who has tried to make segregates in the genus is Delpino, who proposed the genera *Xanthidium*, *Hemixanthidium* and *Hemiambrosia*, but his arrangements cannot be followed, because he included in *Xanthidium* the original supposed *Franseria* and *Gaertneria* and applied the name *Franseria* to the 1-beaked species most closely related to *Ambrosia*. Besides the name *Xanthidium* is preoccupied. *Hemixanthidium* was proposed on a species which Delpino claimed had two kinds of pistillate heads, the one kind described as the ordinary one, the other form as found occasionally but as evidently caused by some disease. His *Hemiambrosia* is based on the species which would be included in *Ambrosia*.

There are two species of *Franseria*, however, that are very peculiar in their structure, namely, *F. eriocentra* and *F. Bryanti*. Both have a single beak which is scarcely oblique and with several teeth.

The former has only one pistil, but the spines are in several series and the plant is of quite different habit, otherwise the plants could be included in *Ambrosia*. The most peculiar of all is *F. Bryanti*, which also has a single beak, and the spines are practically in a single series. According to these characters the plant should be included in *Ambrosia*, but the bur contains several pistils and is several-celled, although the beak is single and the spines are enormously elongated, sometimes 2–3 cm. long. If none of the other species of *Franseria* are regarded as generic types, this one should. It is more distinct from *Fran-*

seria than from *Ambrosia*, but could not be included in the latter genus.

Where the generic line should be drawn is hard to tell and Dr. Rydberg was not prepared to give his final conclusions. It is evident, however, that the treatment hitherto followed is not satisfactory. Some of the species of *Franseria* could easily be included in *Ambrosia* by modifying the latter genus a little. Other species are on the other hand so closely related to *Xanthium* that it is hard to draw any line, except the united bracts and the staminate heads. It would be better to segregate the genus *Franseria* into several than to leave it as it is, but where and how to draw the generic line is hard to tell.

There is another genus of the same group, namely, *Hymenoclea*. The structure of the pistillate head is essentially that of *Ambrosia*, except that small spines of that genus have been replaced by broad and thin wings. The beak is essentially of the same structure. In one species the wings are in a single series, but in the other species there are some scattered wings below. In this respect, the species stand to each other in the same relationship as the genera *Franseria* and *Ambrosia*, but none of the species have the beak of *Franseria*. There will be no good reason for segregating them into several genera on account of the number of series of appendages.

Why should the number of series be regarded as a good character in separating *Franseria* and *Ambrosia?* And then the question arises, if all four genera in reality could not be regarded as one. There seems to be no reason why they should not if *Franseria* is left as it is.

Dr. Britton announced the approaching completion of Mr. Norman Taylor's studies on the local flora within 100 miles of New York City, which have extended over several years, and also the authorization of the publication of the results of this work by the scientific directors of the New York Botanical Garden. The greater portion of the investigation was accomplished during the period while Mr. Taylor was an officer of the New York Botanical Garden, and has been completed during his association with the Brooklyn Botanic Garden. Dr. Britton

remarked on the preceding ctalogues of the local flora, including the list prepared by Dr. Torrey, Dr. Eddy, and Mr. Knevals, published by the Lyceum of Natural History in 1819, the list prepared by Mr. Leggett and his associates, published in Volumes 1–6 of Bulletin, 1870–1876, and the catalogue of 1888, prepared by himself with the aid of Mr. Stearns and Mr. Poggenburg. Mr. Taylor's work is much more elaborate than any of the preceding catalogues, as it contains keys for the rapid determination of species, detailed citations of distribution, and of habitat, together with statements of distribution by geological formations, by altitude, and with relation to temperature and the length of the growing season.

Mr. Otto Kunkel spoke of collecting rusts in the Adirondacks. Dr. R. M. Harper gave a brief description of certain floral features of northern Michigan. An abstract follows:

The biological station of the University of Michigan is located in the wilderness on the shore of Douglas Lake, about 17 miles south of the Straits of Mackinac. The lake covers seven square miles, and has a varied and interesting flora along its shores. The surrounding country is very sandy, and was originally covered mostly with white pine forests, which were cut off about thirty years ago, and have not reproduced themselves to any considerable extent since, on account of too frequent fires. There are small areas of hardwood forest, in nearly primeval condition, and many swamps full of conifers of the traditional or conventional narrow conical form, familiar in all parts of the northern hemisphere where the snowfall is heavy. The abundance of fleshy fruits in that neighborhood, which is near the southern edge of the boreal conifer region, is noteworthy. They occur in many different families, even including the Cyperaceae.

Adjournment followed.

B. O. Dodge,
Secretary

November 11, 1913

The meeting of November 11, 1913, was held at the American Museum of Natural History at 8:15. President Burgess presided. Twenty-four persons were present.

The minutes of October 29 were read and approved. Dr. O. E. White, Brooklyn Botanic Garden, Brooklyn, N. Y., was nominated for membership.

The scientific program consisted of an illustrated address on "Spore Formation in the Slime Moulds," by Prof. R. A. Harper.

Adjournment followed.

MICHAEL LEVINE,
Secretary pro tem.

NOVEMBER 26, 1913

The meeting of November 26, 1913, was held in the laboratory of the New York Botanical Garden at 3:30 P.M. with Vice-president Barnhart presiding. Twelve persons were present.

The minutes of November 11 were read and approved.

Dr. G. Clyde Fisher, American Museum of Natural History, New York City, was nominated for membership.

On the motion of Dr. Murrill, the secretary was instructed to accept the terms proposed by the De Felice Company in connection with the engrossing of the resolution relating to the death of Judge Addison Brown and E. L. Morris, such engrossing having been authorized at the last meeting.

Dr. E. G. Arzberger, Dr. O. E. White and Dr. G. Clyde Fisher were then elected to membership in the Club.

Dr. Murrill exhibited specimens of a species of *Phellorina* collected near Laredo, Texas, by Dr. J. N. Rose in October, 1913. He pointed out the relationship existing between this genus and *Podaxon* and also spoke briefly of the family Podaxaceae, comprising peculiar, stalked, puffball-like fungi inhabiting desert places.

Mrs. E. G. Britton followed with the announced paper on "Mosses of the Virgin Islands and Central America."

Mrs. Britton showed a collection of mosses made in the Danish West Indies and the Virgin Islands during the month of February, 1913, and also a small collection from St. Kitt's. She read an account of the work done by J. Breutel in 1841 (quoted from Urban's Symbolae) on these islands and exhibited a collection of specimens preserved in the Mitten Herbarium, which included six species from St. Thomas and St. Jan, and six from St. Kitt's,

including *Hymenostomum Breutelii* (C. M.) Broth. which is common on St. Thomas. The collections of this year included 75 specimens, representing 26 species and 19 genera of mosses, including 2 new species, one a small *Phascum*, collected on roadside banks, near Charlotte Amalia and an undescribed species of *Hyophila* from the Island of St. Jan collected by Dr. Britton and Dr. Shafer.

Mrs. Britton also read by title, for publication in the *Bulletin*, a report on some collections of Central American mosses sent for determination from the National Museum including specimens from Guatemala and Costa Rica, including also some specimens from Honduras collected for the New York Botanical Garden by Mr. Percy Wilson. These included 54 species representing 34 genera, with descriptions of a new species of *Macromitrium* and a new genus *Isodrepanium* raised from subgeneric rank to include two synonyms, with illustrations and specimens collected in Jamaica, Central America and South America.

Mr. Taylor gave some account of the flowering plants collected by Mr. Robert Cushman Murphy on the island of South Georgia in the Antarctic regions. Specimens were exhibited, and one or two illustrations also, from the work of Dr. Carl Skottsberg.

Adjournment followed.

B. O. Dodge,
Secretary

NEWS ITEMS

At the annual meeting of the New York Academy of Sciences held December fifteenth, the following botanists were elected fellows of the academy: Oakes Ames, R. A. Harper, Wm. Mansfield, W. A. Murrill and Norman Taylor. At the same meeting Dr. N. L. Britton presented the name of Sir David Prain, Lieut.-Col., director of the Royal Botanic Gardens, Kew, for election as an honorary member of the academy. Dr. M. A. Howe was elected a councilor for 1914–1916.

Professor F. L. Stevens, of Mayaguez, Porto Rico, has accepted the position of professor of plant pathology at the University of Illinois. The appointment becomes effective February 1, and thereafter Professor Stevens's address will be Urbana, Ill.